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of Engineers
Waterways Experiment
Station

AD-A273 029



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National Summary of Ongoing Wetlands Research by Federal Agencies (1992)

Compiled by the US Army Corps of Engineers
Wetlands Research Program

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The following two letters used as part of the number designating technical reports of research published under the Wetlands Research Program identify the area under which the report was prepared:

	<u>Task</u>		<u>Task</u>
CP	Critical Processes	RE	Restoration & Establishment
DE	Delineation & Evaluation	SM	Stewardship & Management

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Contents

	<u>Page</u>
INTRODUCTION	1
AGENCY SUMMARY TABLES	
U.S. Army Corps of Engineers	2
U.S. Environmental Protection Agency	24
U.S. Soil Conservation Service	26
U.S. Forest Service	30
National Marine Fisheries Service	34
U.S. Fish and Wildlife Service	36
U.S. Bureau of Reclamation	53
U.S. Geological Survey	54
INDEX BY WETLAND TYPE	66
1992 SUBMISSION FORMAT	67
ABBREVIATIONS USED IN REPORT	69

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Introduction

The purpose of this document is to provide a reference source for Federal and State agencies, academia, and private organizations on current wetlands research being conducted by Federal agencies. It is hoped this information will allow mutual interaction and partnering of research activities where appropriate and feasible, resulting in efficient and wise use of available resources.

This first edition is the result of agreements among Federal agencies comprising an ad hoc committee on wetlands research and development hosted by the U.S. Army Corps of Engineers in Washington, DC, in November 1990 and December 1991. Representatives of 13 Federal agencies involved in wetlands research attended one or both of the meetings. The committee will continue to meet on an annual basis to further facilitate interagency coordination and cooperation and will seek to integrate their efforts with other coordination initiatives under way at various government levels.

This edition consists of information provided by eight Federal agencies. It is recognized that agencies other than those represented in this document are conducting research in wetlands. It is also recognized that all of the research being conducted by those agencies represented herein is not included. Requests have been made to acquire this information, and assurances have been forthcoming. Rather than delay, the committee felt it important to publish this first edition, and later build on it as other information becomes available.

The committee's goal is to continue to update this document and to publish an updated version annually in January. Agencies wishing to contribute are invited at any time to submit information in the one-page format provided at the end of this document. Send the completed one-pagers to USAE Waterways Experiment Station, ATTN: CEWES-EP-W (Wetlands Research Program), 3909 Halls Ferry Road, Vicksburg, MS 39180-6199. Suggestions for improving this document are also welcomed.

SITE	TYPE*	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
FL	E	Hollis H. Allen and Mary M. Davis USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3845 and 601/634-2853	USAE Jacksonville Dis- trict, Florida Dept. of Corrections, Charlotte County Correctional Facility	Wetland Restora- tion of Diked Agricultural Areas	Document and develop mitigation techniques for existing diked agricultural fields formerly containing wet prairie, marsh, and forested wetlands. Assess effectiveness and success of the mitigation effort.	USACE Wetlands Research Program, with logistical and staff support from Charlotte County Correc- tional Facility	FY91	FY94
OR	C,E	Hollis H. Allen and Mary M. Davis USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3845 and 601/634-2853	USAE Portland District, Lane Council of Govern- ments, USEPA Corvallis Laboratory	Wetland Restora- tion of Forested Wetlands and Wet Prairies in the Williamette Val- ley, Oregon	Document and develop mitigation techniques for restoring forested and prairie wetlands in depressional agricul- tural fields. Assess effectiveness and suc- cess of the mitigation effort.	USACE Wetlands Research Program, with logistical and staff support from the USEPA Corvallis Laboratory	FY91	FY94
MN	C,E	Hollis H. Allen and Mary M. Davis USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3845 and 601/634-2853	USAE St. Paul District, USFWS, Minnesota DNR, Wisconsin DNR	Use of Bioengi- neering Tech- niques to Stabilize Island Shorelines and Coordination of Long-term Moni- toring of Wetland Restoration at Weaver Bottoms, Minnesota	Conduct a bio- engineering project on eroding shorelines of waterfowl nesting islands in Weaver Bottoms, and evaluate its success. Coordi- nate the interagency long-term monitoring program at Weaver Bottoms.	USACE Wetlands Research Program, with logistical and staff support from the USFWS and the States of Minnesota and Wisconsin	FY91	FY94

NOTE: A listing of abbreviations used in this table can be found on page 69.

* Key for Wetland Study Types

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
SC	D	Hollis H. Allen and Mary M. Davis USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3845 and 601/634-2853	USAE Savannah District, US Department of Energy, Savannah River Plant	Fresh Marsh Establishment at L-Lake, SC	Document and develop marsh establishment techniques for the shoreline of a small lake system. Assess effectiveness and success of establish- ment and the mitigation project.	USACE Wetlands Research Program, with logistical and staff support from the Savannah River Plant	FY91	FY94
PA	D	Hollis H. Allen USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3845	USDA SCS, USAE Baltimore District	Wetlands Vegeta- tion Management on Cowanesque Reservoir	Determine appropriate plant species that can grow under reservoir water level operating constraints. Determine measures to be taken to protect and manage such plants.	USACE Wetlands Research Program	FY91	FY94
OR	D,E	Hollis H. Allen USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3845	USDA SCS, USAE Portland District	Wetlands Vegeta- tion Management on Fern Ridge Reservoir	Determine appropriate plant species that can grow under reservoir water level operating constraints. Determine measures to be taken to protect and manage such plants.	USACE Wetlands Research Program	FY91	FY94
KS	D,E	Hollis H. Allen USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3845	USDA SCS, USAE Kansas City District	Wetlands Vegeta- tion Management on Tuttle Creek	Determine appropriate plant species that can grow under reservoir water level operating constraints. Determine measures to be taken to protect and manage such plants.	USACE Wetlands Research Program	FY91	FY94

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
MO	C, E	Hollis M. Allen USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3845	USAE St. Louis District, USDA SCS	Wetlands Vegetation Management in Riverlands Environmental Demonstration Area	Determine appropriate plant species that can grow under various hydrological and soil conditions. Determine measures to be taken to protect and manage such plants.	USACE Wetlands Research Program	FY91	FY94
SC	B	Douglas G. Clarke USAE Waterways Experiment Station ATTN: CEWES-ER-C 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3770	USAE Charleston District, Port of Georgetown, Clemson University, State of South Carolina	Evaluation of the Winyah Bay Wetland Establishment Project	Continue monitoring and evaluate the Winyah Bay salt marsh establishment site at selected locations representing the different stages of colonization occurring, including fish, ben- thos, wildlife, vegetation, sediments and soils, and macroinvertebrates. The site will also continue to be compared to a natural salt marsh in Winyah Bay estuary.	USACE Wetlands Research Program, with logistical and staff support from USAE Charleston District	FY91	FY94
NC	B	Douglas G. Clarke USAE Waterways Experiment Station ATTN: CEWES-ER-C 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3770	USAE Wilmington District, NOAA NMFS, Clemson University, State of North Carolina	Analysis of Data and Continued Evaluation of Three NMFS Coastal Sites in North Carolina	Analyze existing data and continue evaluation of three wetland experimental sites designed by NOAA NMFS and built by the USAE Wilmington District in 1987.	USACE Wetlands Research Program	FY91	FY94

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
TX	B	Douglas G. Clarke USAE Waterways Experiment Station ATTN: CEWES-ER-C 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3770	USAE Galveston District, Port of Houston, Texas A&M University, USFWS, USDA SCS, NOAA NMFS	Evaluation of the Three Bolivar Peninsula Wetland Establishment Project Sites	Continue monitoring and evaluate the Bolivar peninsula salt marsh establishment site at selected locations representing 1975 plantings, 1982 plantings, and a control (unplanted, unstabilized area). This includes fish, benthos, macroinvertebrates, wildlife, vegetation, and soils.	USACE Wetlands Research Program, with logistical and staff support from USAE Galveston District	FY91	FY94
WA	B	Douglas G. Clarke USAE Waterways Experiment Station ATTN: CEWES-ER-C 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3770	USAE Seattle District, Port of Seattle, University of Washington, Washington Dept. of Ecology, USFWS, NOAA NMFS, USEPA	Evaluation of the Lincoln Avenue Wetland Mitigation Site	Continue monitoring and evaluate the Lincoln Avenue Wetland Mitigation Site for benthos, macroinvertebrates, fish and wildlife, and marsh and seagrass planting success.	USACE Wetlands Research Program, with logistical and staff support from USAE Seattle District and the University of Washington	FY91	FY94
FL	D	Al Cofrancesco USAE Waterways Experiment Station ATTN: CEWES-ER-A 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3182	Donnie Kinard USAE Jacksonville District PO Box 4970 Jacksonville, FL 32232-0019 904/791-2255	Management of Insects and Exotic Plant Pest Problems in Wetland Habitats	Minimize problems caused by exotic plants in the wetland habitats. The main problem plant species is <u>Melaleuca quinquenervia</u> .	USACE Wetlands Research Program	FY91	FY93
ND	D	Al Cofrancesco USAE Waterways Experiment Station ATTN: CEWES-ER-A 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3182	Leroy Phillips USAE Omaha District Box 1562 Williston, ND 58801 701/572-6494	Management of Insects and Plant Pest Problems in Wetland Habitats	Evaluate current mosquito control methods and examine new control technologies.	USACE Wetlands Research Program	FY91	FY93

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U.S. Army Corps of Engineers

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MN	C	Al Cofrancesco USAE Waterways Experiment Station ATTN: CEWES-ER-A 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3182	Dick Otto USAE St. Paul District 300 South 1st St. La Crescent, MN 55947 507/895-6341	Management of Insects and Plant Pest Problems in Wetland Habitats	Minimize problems caused by exotic plants in wetland habitats. The main problem plant species is purple loosestrife (<i>Lythrum salicaria</i>).	USACE Wetlands Research Program	FY91	FY93
MS	B	Jack E. Davis USAE Waterways Experiment Station ATTN: CEWES-MS-S 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3006	Louisiana State University	Critical Processes in Wetlands: Wind Wave Process and Wave-Induced Erosion	Study wave generation and propagation and wave-induced erosion in a coastal wetland environment.	USACE Wetlands Research Program	FY91	FY94
TX	B	Jack E. Davis and Stephen T. Maynard USAE Waterways Experiment Station ATTN: CEWES-MS-S 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3006 and 601/634-3284	USAE Galveston District, USFWS, NOAA NMFS, Texas A&M University	Arkansas NWR/West Bay Erosion Control and Wetland Restoration Study	Design and evaluate the use of shoreline protection coupled with wetland restoration plantings and their influence on existing wetlands and wildlife in the study areas.	Primarily USAE Galveston District and the USACE Wetlands Research Program	FY91	FY94
MD	B	Jack E. Davis and Stephen T. Maynard USAE Waterways Experiment Station ATTN: CEWES-MS-S 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3006 and 601/634-3284	USAE Baltimore District, USFWS, Maryland DNR, Maryland Open Lands Program	Restoration of Black Duck Habitat at Bodkin Island, Maryland	Design and evaluate the use of island and shoreline protection coupled with wetland restoration plantings in providing stable nesting and brood habitat for black ducks and other wildlife.	USAE Baltimore District, the State of Maryland, and the USACE Wetlands Research Program, with logistical and staff support from the US MS Annapolis Field Office	FY91	FY94

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N/A	C,D	Mark Dortch USAE Waterways Experiment Station ATTN: CEWES-ES-0 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3517		Critical Processes in Wetlands: Water Quality	Investigate water quality enhancement processes in wetlands and develop quantitative methods for prediction.	USACE Wetlands Research Program	FY91	FY94
RI	B	Jack E. Davis and Stephen T. Maynard USAE Waterways Experiment Station ATTN: CEWES-MS-S 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3006 and 601/634-3284	USAE New England Division, State of Rhode Island	Galilee Bird Sanctuary Wetland Restoration Study	Design and evaluate modifications of shoreline structures that currently block intertidal flow into the sanctuary marshes, and removal fill from the existing marsh. Recovery of the existing marsh will be evaluated.	USACE Wetlands Research Program and the USAE New England Division	FY91	FY94
N/A	B,C, D	Bruce Ebersole USAE Waterways Experiment Station ATTN: CEWES-CR-P 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3209		Critical Processes in Wetlands: Groundwater	Investigate groundwater processes within wetlands and develop quantitative methods for prediction.	USACE Wetlands Research Program	FY91	FY94
N/A	B,C, D	Bruce Ebersole USAE Waterways Experiment Station ATTN: CEWES-CR-P 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3209		Critical Processes in Wetlands: Surface Water	Investigate surface water processes within wetlands and develop quantitative measures for prediction.	USACE Wetlands Research Program	FY91	FY94
WI, MI	D	Mark R. Graves USAE Waterways Experiment Station ATTN: CEWES-EM-B 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2557	NASA, USEPA	Wetland Change Assessment	Assess the utility of remote sensing data from various platforms for change assessment and cost-effective monitoring of wetlands.	USACE Wetlands Research Program	FY91	FY93

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
AR	C	Mark R. Graves USAE Waterways Experiment Station ATTN: CEWES-EN-B 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2557		Wetland Change Assessment	Assess the utility of remote sensing data from various platforms for change assessment and monitoring of bottomland hardwood wetland.	USACE Wetlands Research Program	FY91	FY93
LA	C	Mark R. Graves USAE Waterways Experiment Station ATTN: CEWES-EN-B 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2557	USFWS "National Wetlands Research Center	Wetland Change Assessment	Assess the utility of remote sensing data from various platforms for change assessment and monitoring of bottomland hardwood wetland.	USACE Wetlands Research Program	FY91	FY93
N/A	A,B, C,D, E	Jim Henderson USAE Waterways Experiment Station ATTN: CEWES-ER-R 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3305	Louisiana State University	Economic Values of Wetlands	Identify the economic, social, and public-use values of wetlands.	USACE Wetlands Research Program	FY91	FY94
NY	D	Jack Killgore USAE Waterways Experiment Station ATTN: CEWES-ER-A 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3397	Len Bryniarski USAE Buffalo District ATTN: CENCB-PD-ER 1776 Niagara St. Buffalo, NY 14207-3199 716/879-4173 Bill Abraham New York Dept. of Environmental Conservation Region 8 716/226-2466	Fish Habitat Management, Wetland Stewardship and Management	Compare larval fish abundance between natural and man-made wetlands. Develop water-level management guidelines and recommend engineering design features for small sub-impoundments constructed in lakes.	USACE Wetlands Research Program	FY91	FY94

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MS	D	Jack Killgore USAE Waterways Experiment Station ATTN: CEWES-ER-A 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3397	Steve Reed USAE Vicksburg District ATTN: CELHK-PD-Q PO Box 60, Vicksburg, MS 39180-0060 601/631-5433	Fish Habitat Management, Wetland Stewardship and Management	Determine species richness and relative abundance of fishes utilizing artificial spawning beds in the fluctuation zone of reservoirs.	USACE Wetlands Research Program	FY91	FY94
IL	C,E	Barbara A. Kleiss USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3836	USAE Chicago District, USEPA, Ohio State University, Wetlands Research, Inc.	Des Plaines River Wetlands Demonstration Project	Determine the impact of hydrologic loading rates on wetland functions in established wetlands. Compare the structure and functions of these man-made wetlands to botanically similar natural wetlands in the same geographic area.	USACE Wetlands Research Program	FY91	FY94
OH	E	Barbara A. Kleiss USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3836	USAE Louisville District, Wright State University, Beaver Creek Wetlands Association	Beaver Creek Fen Wetlands Demonstration Project	Investigate the possibility of establishing wetlands using free-flowing wells as the primary source of hydrology.	USACE Wetlands Research Program, with logistical and staff support from Wright State University, USAE Louisville District, and Beaver Creek Association	FY91	FY94
AR	C,E	Barbara A. Kleiss, USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3836	USGS, Ouachita Baptist Univ., Tennessee Technological Univ., University of Arkansas	Cache River Studies	Characterize physical and biological functions of a bottomland hardwood wetland, including hydrology, sedimentation, water quality, vegetation, fisheries, and wildlife.	USACE Wetlands Research Program	Oct 1987	Sep 1993

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TN, KY	E	Charles V. Klimes USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2983	North Carolina State University, Tennessee Valley Authority, USEPA (Atlanta), USAE Nashville District	Functional Investigations of Bot- tomland Hardwood Embankment Plant- ings at Kentucky Lake	Determine whether basic ecological processes (e.g., decomposition, nutrient cycles) are functioning within hardwood forests planted more than 40 years ago.	USACE Wetlands Research Program, Tennessee Valley Authority, pri- vate industry source	FY91	FY94
MS	E	Charles V. Klimes USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2983	USFWS, USAE Vicksburg District, USFS (Stoneville), Missis- sippi State University, Tennessee Technological University	Lake George Bot- tomland Hardwoods Reforestation Study	Investigate wildlife values and development of plant communities during early stages of recovery following planting, including: (1) characterization of habitat structure, (2) documentation of early succession, and (3) use by small mam- mals and birds, with attention to proximity to existing forests. Investigate techniques to improve restoration success, including effects of site factors, season of planting, propagule types, species, and interspecific competition.	USACE Wetlands Research Program, USFS, USAE Vicks- burg District, State of Tennes- see Water Center	FY91	FY94
N/A	C,D	William A. (Tony) Thomas USAE Waterways Experiment Station ATTN: CEWES-HR 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2511		Critical Pro- cesses in Wet- lands: Sedimen- tation	Investigate sedimenta- tion enhancement in wetlands and develop quantitative methods for prediction.	USACE Wetlands Research Program	FY91	FY94

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US	B,C, D,E	Mary C. Landin USAE Waterways Experiment Station ATTN: CEVES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2942	USFWS, USEPA, USFS, USDA SCS, NOAA NMFS, USDI Bureau of Reclamation, US Department of Energy, Canadian Fish and Wild- life Service, US Army and US Navy, all US Army Engineer Districts and Divisions, 26 State agencies, 6 county/local governments, port com- missions, private permit applicants (mitigation projects), Ducks Unlim- ited, Inc.	Wetlands Restora- tion, Protection, and Establishment	Determine and test environmental and engineering criteria, protocols, equipment, structures, techniques, and methodologies for wetlands restoration, protection, and estab- lishment. Demonstrate and evaluate wetlands restoration, protec- tion, and establishment of representative wet- land types at 27 field demonstration sites in a cooperative inter- agency spirit. Com- plete technical guidelines and proto- cols for wetlands engineering, design criteria, mitigation, monitoring standards, and success criteria. Conduct national-level workshops on wetlands engineering and wet- lands restoration.	USACE Wetlands Research Program with other agencies and sources	FY91	FY94

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US	B,C, D,E	Mary C. Landin USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2942	USFWS, USEPA, USFS, USDA SCS, NOAA NMFS, USDI Bureau of Reclamation, US Department of Energy, Canadian Fish and Wild- life Service, Tennessee Valley Authority, Miner- als Management Service, US Army and US Navy, 20 US Army Engineer Dis- tricts, 9 US Army Engi- neer Divisions, 26 State agencies, 6 county/local governments, port com- missions, private permit applicants (mitigation projects), Ducks Unlim- ited Inc.	Wetlands Field Demonstrations	Field test criteria, protocols, engineering, techniques, and method- ologies for wetlands restoration, protec- tion, and establish- ment. Demonstrate and evaluate wetlands res- toration and establish- ment of representative wetland types in a cooperative interagency spirit.	USACE Wetlands Research Program plus cost sharing with other agen- cies and organi- zations	FY91	FY94
OR	B,C	Mary C. Landin USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2942	USAE Portland District, USFWS, NOAA NMFS, Oregon DNR (Washington), Dept. of Ecology, Port of Portland	Wetlands Estab- lishment Compari- son Studies as Part of the Lower Columbia River Long Term Manage- ment Strategy (LTMS)	Continue comparison of the man-made wetlands at Miller Sands Island with 3 natural refer- ence wetlands and extrapolate that infor- mation as part of the Lower Columbia River LTMS	USACE Wetlands Research Program and USAE Portland District, with logistical and staff support from USFWS, NOAA NMFS, and Port of Portland	FY91	FY94

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MI, Canada	D	Mary C. Landin USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2942	USAE Detroit District, Michigan DNR, USFWS, Canadian Fish and Wildlife Service, Ducks Unlimited, Inc.	Comparison of the Pointe Mouillee Wetland Restoration Project to a Natural Wetland in the Canadian Great Lakes	Continue to conduct long-term monitoring at the 4,600-acre Pointe Mouillee wetland restoration and protection site while beginning data collection at a selected natural wetland in western Lake Erie in Ontario, Canada. Compare the wetlands recovering at Pointe Mouillee to those of a similar natural wetland in Lake Erie.	USACE Wetlands Research Program, with Section 150 funds from Ducks Unlimited, Inc., and logistical support from USAE Detroit District and Michigan DNR	FY91	FY94
CA	B	Mary C. Landin USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2942	USAE San Francisco District, California Coastal Commission, California Dept. of Game, USFWS, Alameda Flood Control District	Comparison of Two Man made Salt Marshes to Natural Salt Marshes of San Francisco Bay, with Extrapolation to Three Planned Salt Marshes	Continue long-term monitoring of Salt Pond #3 and three natural salt marshes in South San Francisco Bay and cooperate in continued long-term data collection at Muzzi Marsh at Tiburon, CA. Apply lessons learned and suitable design criteria and techniques for restoring diked subsided land to intertidal salt marshes at (in order of funding priority): (1) Hamilton Antenna Field, (2) Sonoma Baylands, and (3) Cullinan Ranch.	USACE Wetlands Research Program, also Landowners Alameda Flood Control District, USFWS, California Dept. of Game, Sonoma Baylands Trust, California Coastal Commission, with logistical support from USAE San Francisco District and the US Army	FY91	FY94

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AL, MS	B	Mary C. Landin USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Malls Ferry Road Vicksburg, MS 39180-6199 601/634-2942	USAE Mobile District, Alabama State Docks, Alabama DNR, Mississippi DNR, USFWS, Ingalls Ship Yard, US Navy	Comparison of Man made Salt Marshes to Selected Natural Marshes in Mobile Bay and Mississippi Sound	Continue long-term data collection at Gaillard Island, renew data collection at other man-made marshes in the vicinity, and select and begin data collection at natural marshes within Mobile Bay. Compare man-made marshes to the natural marshes and provide information gained for use at other sites or midcourse correction at same sites in Mobile Bay and Mississippi Sound.	USACE Wetlands Research Program, with logistical and staff support from the USAE Mobile District and Alabama State Docks	FY91	FY94
GA	B, C	Mary C. Landin USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Malls Ferry Road Vicksburg, MS 39180-6199 601/634-2942	USAE Savannah District, Georgia DNR	Comparison of a South Atlantic Man made Salt Marsh to Naturally Occurring Salt Marshes	Continue long-term monitoring of the Butter-milk Sound salt marsh and three nearby natural salt marshes and extrapolate those data to planned salt marsh projects in the South Atlantic region.	USACE Wetlands Research Program, with logistical and staff support from the USAE Savannah District	FY91	FY94

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MD	B	Mary C. Lordin USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Malls Ferry Road Vicksburg, MS 39180-6199 601/634-2942	Aberdeen Proving Ground, US Army, US Navy, USAE Baltimore District, USFWS, Maryland DNR	Intertidal Fresh Marsh Restoration on Chesapeake Bay and the Bush River	Use long-term data and information gained from other man-made marshes in Chesapeake Bay to design and implement more than 100 acres of fresh marsh restoration at two sites in the Chesapeake Bay and the Bush River. Establish a long-term monitoring plan for these sites, including comparison of existing natural intertidal fresh marshes on Aberdeen Proving Ground.	Aberdeen Proving Ground, with research staff support of the USACE Wetlands Research Program	FY91	FY94
WY	C	Robert L. Lazor USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Malls Ferry Road Vicksburg, MS 39180-6199 601/634-2935	USAE Malle Malle District, USFWS, USDA SCS, Wyoming Game and Fish Commission, Trout Unlimited, Inc., Teton County, Wyoming	Restoration and Establishment of Western Riparian Marsh and Shrub Habitats	Monitor vegetation, soils, and hydrology at one or more selected Snake River wetland sites. Evaluate the effectiveness of riparian restoration methods and techniques.	USACE Wetlands Research Program, with logistical and staff support from State and local agencies and the USAE Malle Malle District	FY91	FY94
WY	C	Robert L. Lazor USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Malls Ferry Road Vicksburg, MS 39180-6199 601/634-2935	USAE Huntington District, Marshall University, West Virginia DNR	Restoration and Establishment of Riparian Habitats at Green Bottoms Wildlife Management Area	Monitor vegetation, soils, and hydrology at one or more selected Green Bottoms wetland sites. Evaluate the effectiveness of riparian restoration methods and techniques.	USACE Wetlands Research Program, West Virginia DNR, with logistical and staff support from Marshall University and the USAE Huntington District	FY91	FY94

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CA	C	Robert L. Lazor USAE Waterways Experiment Station ATTN: CEMES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2935	USAE Sacramento District, USDA SCS, California Dept. of Water Resources, University of California--Davis, Ducks Unlimited, Inc., USFWS, USDI Bureau of Reclamation	Restoration and Establishment of Western Riparian Marsh and Shrub Habitats	Monitor vegetation, soils, and hydrology at two sites, Cache Slough and Sacubben, in the 66,000-acre Yolo Bypass Restoration Project. Evaluate the effectiveness of riparian restoration methods and techniques.	USACE Wetlands Research Program, Ducks Unlimited, Inc., with logistical and staff support from State agencies, USAE Sacramento District, and USFWS	FY91	FY94
N/A	A,C, D	Charles R. (Dick) Lee USAE Waterways Experiment Station ATTN: CEMES-ES-R 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3585	To be determined	Critical Soil and Biological Processes	Identify indicators of wetland soil and biological processes. Identify potential techniques for determining indicators. Test potential techniques for delineating wetland soils. Test potential techniques for quantifying wetland functions.	USACE Wetlands Research Program	FY91	FY94
LA	B	Joseph V. Letter USAE Waterways Experiment Station ATTN: CEMES-WE 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2845	USAE New Orleans District, Louisiana DMR, Plaquemines Parish	Nacmi/West Point Siphon Study	Evaluate engineering and cost effectiveness of using river siphon systems to minimize erosion and subsidence and restore wetlands adjacent to the lower Mississippi River.	USACE Wetlands Research Program, with logistical and staff support from USAE New Orleans District and Louisiana DMR	FY91	FY94
LA	B	Joseph V. Letter USAE Waterways Experiment Station ATTN: CEMES-WE 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2845	USAE New Orleans District, Louisiana DMR, Plaquemines Parish	Lower Mississippi River Delta Splays	Evaluate engineering and cost effectiveness of using natural and man-made river splays to minimize erosion and subsidence and to restore wetlands adjacent to the lower Mississippi River.	USACE Wetlands Research Program, with logistical and staff support from USAE New Orleans District and Louisiana DMR	FY91	FY94

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LA	B	Joseph V. Letter USAE Waterways Experiment Station ATTN: CEWES-HE 3909 Walls Ferry Road Vicksburg, MS 39180-6199 601/634-2845	USAE New Orleans District, Louisiana DNR, Plaquemines Parish	Wetland Restoration Using Unconfined Dredged Material Placement at Southwest Pass	Evaluate engineering and cost effectiveness and refine techniques of using unconfined dredged material placement beyond the natural river berms on the western side of Southwest Pass to minimize erosion and subsidence and to restore wetlands.	USACE Wetlands Research Program, with logistical and staff support from USAE New Orleans District and Louisiana DNR	FY91	FY94
LA	B	Joseph V. Letter USAE Waterways Experiment Station ATTN: CEWES-HE 3909 Walls Ferry Road Vicksburg, MS 39180-6199 601/634-2845	USAE New Orleans District, Louisiana DNR, Plaquemines Parish	Fine la Terre Mitigation Bank- ing Study	Evaluate engineering and cost effectiveness of marsh management structures and techniques at Fine la Terre mitigation bank site to minimize salt water intrusion and subsidence and to improve wetland values.	USACE Wetlands Research Program, with logistical and staff support from USAE New Orleans District and Louisiana DNR	FY91	FY94
N/A	C, D, E	Chester O. Martin USAE Waterways Experiment Station ATTN: CEWES-ER-R 3909 Walls Ferry Road Vicksburg, MS 39180-6199 601/634-3958	USDA SCS Texas A&M University Gaylord Memorial Laboratory University of Missouri	Technology for Managing Wetlands	Identify existing technology pertinent to wetlands stewardship. Develop handbook of cost-effective management techniques. Develop guidebook on establishing and managing wetland plants.	USACE Wetlands Research Program	FY91	FY94
CO	E	Tommy E. Myers USAE Waterways Experiment Station ATTN: CEWES-EE-S 3909 Walls Ferry Road Vicksburg, MS 39180-6199 601/634-3939	Cherry Creek Basin Water Quality Authority 6200 South Syracuse Way, #150 Englewood, CO 80111	Non-Point Source Pollution (NPSP) Management at CE Controlled Wetlands	Evaluate effectiveness of wetlands for NPSP abatement. Investigate factors affecting treatment efficiency. Develop guidelines for design and management.	USACE Wetlands Research Program, Cherry Creek Basin Water Quality Authority	FY91	FY94

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U.S. Army Corps of Engineers

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TX	E	Tommy E. Myers USAE Waterways Experiment Station ATTN: CEVES-EE-S 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3939		NPSP Management at USACE Controlled Wetlands	Evaluate effectiveness of wetlands for NPSP abatement. Investigate factors affecting treatment efficiency. Develop guidelines for design and management.	USACE Wetlands Research Program, USAE Fort Worth District	FY91	FY94
ND	E	Tommy E. Myers USAE Waterways Experiment Station ATTN: CEVES-EE-S 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3939	Roger Smith Ducks Unlimited, Inc. 6115 East Masin Avenue Bismark, ND 58501 701/258-5599 Kent Belland Bowman-Slope Soil Conservation Dis. PO Box 256 Bowman, ND 58623 701/523-3871	NPSP Management at USACE Controlled Wetlands	Evaluate effectiveness of wetlands for NPSP abatement. Investigate factors affecting treatment efficiency. Develop guidelines for design and management.	USACE Wetlands Research Program, Bowman-Slope Soil Conservation District, Ducks Unlimited, Inc.	FY91	FY94
IA	E	Tommy E. Myers USAE Waterways Experiment Station ATTN: CEVES-EE-S 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3939	Ollie Kaldenberg Chariton Valley RCD, Inc. PO Box 398 Centerville, IA 52544 515/437-4376 Wayne and Appanoose County Centerville, IA 52544	Non-Point Source Pollution Management at CE Controlled Wetlands	Evaluate effectiveness of wetlands for NPSP abatement. Investigate factors affecting treatment efficiency. Develop guidelines for design and management.	USACE Wetlands Research Program, Wayne and Appanoose Counties	FY91	FY94

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US	B, C, D, E	Michael R. Palermo USACE Waterways Experiment Station ATTN: CEVES-EE 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3753	Coordinating with agencies involved with demonstration sites in Restoration, Protection and Establishment Work Unit	Techniques, and Structures, and Equipment for Wetlands Restoration, Protection, and Establishment	Identify and evaluate techniques for wetlands restoration, protection, and establishment to include: wetland hydrology and elevations, soils handling and site preparation, bioengineering and plant propagation, engineering structures and techniques.	USACE Wetlands Research Program	FY91	FY94
N/A	N/A	Barry S. Payne USACE Waterways Experiment Station ATTN: CEVES-ER-A 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3837	USFWS, USDA SCS, NOAA NMFS, USFS, FHWA, USEPA, USDI Bureau of Reclamation	Development of Monitoring Standards and Success Criteria for Wetlands Restoration	Develop multiagency guidelines for success criteria and monitoring of restored and established wetlands.	USACE Wetlands Research Program	FY91	FY94
MS	D	Richard E. Price USACE Waterways Experiment Station ATTN: CEVES-ES-A 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3449	Mississippi Game and Fish Commission, USDA SCS	Sediment Management in Small Impoundments	Determine the amount of sediment deposited in small impoundments created by the State Game and Fish Commission and determine the relationship between the hydrology and sediment deposition.	USACE Wetlands Research Program	FY91	FY93
CA	D	Richard E. Price USACE Waterways Experiment Station ATTN: CEVES-ES-A 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3449	Ned Euliss USFWS Northern Prairie Wildlife Research Center Jamestown, ND 58401 701/252-5363 Other State and local agencies may also become involved.	Sediment Management in Reservoir Fluctuation Zone	Construction of small wetlands in the fluctuation zone of the reservoir, monitoring of the hydrology and sediment process and the development of management criteria for wetlands of this type.	USACE Wetlands Research Program	September, 1991	December, 1993

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N/A	N/A	Lawson M. Smith USAE Waterways Experiment Station ATTN: CEVES-GG-Y 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2497	Coordinating with agencies involved with demonstration sites in Wetlands Restoration, Protection, and Establishment Work Unit	Improving Wetlands Design Criteria	Determine, test, and develop environmental and engineering design criteria for priority needs and wetland types identified by USACE field offices. Complete preliminary technical guidelines and protocols already initiated for wetland restoration, protection, and establishment for mitigation projects.	USACE Wetlands Research Program	FY91	FY94
N/A	A,B, C,D, E	Lawson M. Smith USAE Waterways Experiment Station ATTN: CEVES-GG-Y 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2497		Regional Evaluation of Wetlands	Develop a procedure for evaluating wetlands in a regional context.	USACE Wetlands Research Program	FY91	FY94
N/A	A,B, C,D, E	Lawson M. Smith USAE Waterways Experiment Station ATTN: CEVES-GG-Y 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2497	FHWA, USDA SCS, USFWS, USEPA, USACE	Development of Framework for Wetland Systems Management	Development of framework for wetland systems management.	USACE Wetlands Research Program	FY91	FY94
US	A,B, C,D, E	R. Dan Smith USAE Waterways Experiment Station ATTN: CEVES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2718	USEPA, USFWS, FHWA	Evaluation of Wetland Functions	Refine current methods for wetland functional assessment by developing models for individual functions performed by different hydrogeomorphic wetland types.	USACE Wetlands Research Program	FY91	FY94

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US	A,B, C,D, E	R. Dan Smith USAE Waterways Experiment Station ATTN: CEMES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2718	East Carolina University	A Hydrogeomorphic Classification of Wetlands	Develop a hydrogeo- morphic classification for assessment of wetland functions.	USACE Wetlands Research Program	FY91	FY94
KS	D,E	James Teaford USAE Waterways Experiment Station ATTN: CEMES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2370	USAE Kansas City Dis- trict, USFWS, Ducks Unlimited, Inc., USDA SCS	Moist Soil Management Stud- ies at Harry S. Truman Reservoir	Develop subimpoundment on 200 acres of low- land. Develop moist- soil management guide- lines for waterfowl and other wildlife.	USACE Wetlands Research Program	FY91	FY94
ND, MN	D	James Teaford USAE Waterways Experiment Station ATTN: CEMES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2370	USAE Omaha District, USAE St. Paul District, USFWS, Ducks Unlimited, Inc.	Waterfowl Nesting Studies	Develop a case history of wetland restoration efforts and habitat conditions. Develop wetland management guidelines for water- fowl nesting.	USACE Wetlands Research Program	FY91	FY94
AR	C,E	James Teaford USAE Waterways Experiment Station ATTN: CEMES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2370	USAE Vicksburg District, USFWS	Greentree Reser- voir Management Studies	Develop a case history of greentree management efforts and assess impacts of those efforts on bottomland hardwood habitats. Develop greentree man- agement guidelines for wildlife use.	USACE Wetlands Research Program	FY91	FY94
ME	E	James Teaford USAE Waterways Experiment Station ATTN: CEMES-ER-W 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-2370	USAE New England Divi- sion, USFWS Maine Cooperative Wildlife Research Unit	Black Duck Nest- ing Habitat in Small Manmade Impoundments	Characterize selected impoundments to provide habitat data. Develop guidelines for black duck habitat develop- ment in small, manipu- lated impoundments.	USACE Wetlands Research Program	FY91	FY94

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MA, CT, RI	E	J. S. Wakeley USAE Waterways Experiment Station ATTN: CEMES-ER-U 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3702	Univ. of Massachusetts, Univ. of Rhode Island, USEPA, USDA SCS, Society of Soil Scientists of Southern New England	Soil Morphology as an Indicator of Seasonal High Water Tables	Determine relationships between soil morphology, vegetation, and hydrologic regime. Evaluate standards for drainage classes, soil moisture regimes, and hydric soils.	USACE Wetlands Research Program	FY91	FY94
FL	E	J. S. Wakeley USAE Waterways Experiment Station ATTN: CEMES-ER-U 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3702	KBN Engineering, Gainesville, FL, Univ. of Florida, USDA SCS	Correlation between Hydric Soils and Hydrology	Describe soil morphology at sites of long-term groundwater monitoring.	USACE Wetlands Research Program	FY91	FY92
OR, AK, SD, MN, IN	E	J. S. Wakeley USAE Waterways Experiment Station ATTN: CEMES-ER-U 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3702	USDA SCS	Wet Soils Monitoring Study	Describe trends in soil morphology within areas monitored with redox probes, piezometers, and tensiometers.	USACE Wetlands Research Program	FY91	FY94
N/A	A,B, C,D, E	J. S. Wakeley USAE Waterways Experiment Station ATTN: CEMES-ER-U 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3702	Louisiana State Univ., Alfred University	Literature Reviews on Oxidized Root Channels and Water-Stained Leaves	Review technical basis for these indicators of wetland hydrology.	USACE Wetlands Research Program	FY91	FY92
MO	E	J. S. Wakeley USAE Waterways Experiment Station ATTN: CEMES-ER-U 3909 Halls Ferry Road Vicksburg, MS 39180-6199 601/634-3702	CELMS Riverlands Area Office, USDA SCS	Effects of Water Table Rise on Soil Chemistry and Morphology	Monitor changes in chemistry and morphology of soils adjacent to the Mississippi River as water table rises due to closure of new lock and dam.	USACE Wetlands Research Program	FY91	FY94

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IL	E	J. S. Wakeley USAE Waterways Experiment Station ATTN: CEWES-ER-W 3909 Nalls Ferry Road Vicksburg, MS 39180-6199 601/634-3702	South Dakota State Univ., Wetlands Research, Inc.	Development of Hydric Soil Characteristics in Constructed Wetlands	Monitor soil morphology and chemistry following creation of wetlands at the Des Plaines Project.	USACE Wetlands Research Program	FY91	FY94

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US	A,B,C, D,E	Kenneth J. Adler USEPA, PM-221 Office of Policy, Planning and Evaluation Washington, DC 20046 202/260-2755 or FTS: 260-2755	Dr. Dennis King Chesapeake Biological Laboratory University of Maryland	Economic Assessment and Requirements for Wetland Mitigation Banks	Measurement of supply and demand for mitigation bank credits. Economics of scale for mitigation banks. Market requirements for the pricing and exchange of mitigation credits.	Office of Policy, Planning and Evaluation USEPA	1990	Continuing
US	A,B,C, D,E	Kenneth J. Adler USEPA, PM-221 Office of Policy, Planning and Evaluation Washington, DC 20046 202/260-2755 or FTS: 260-2755	Dr. Dennis King Chesapeake Biological Laboratory University of Maryland	Regional Cost Profiles for Wetland Restoration and Creation Projects	Develop cost and performance curves by type of wetland restoration and creation project for "typical" mitigation projects by region.	Office of Policy, Planning and Evaluation USEPA	1988	Continuing
US	A,B,C, D,E	Kenneth J. Adler USEPA, PM-221 Office of Policy, Planning and Evaluation Washington, DC 20046 202/260-2755 or FTS: 260-2755	Dr. Dennis King Chesapeake Biological Laboratory University of Maryland	Compensation Ratios for Wetland Mitigation	Develop theoretical framework to estimate wetland compensation ratios. Develop methodology to estimate compensation ratios by type of mitigation project.	Office of Policy, Planning and Evaluation USEPA	1989	Continuing
To be determined	C,D,E	Eric Preston USEPA 200 SW 35th Street Corvallis, OR 97333 503/757-4666	USEPA Region IX Connecticut College University of Florida	Wetland Creation & Restoration	Compare created & natural wetlands. Production of guidance document on wetland creation and restoration.	Office of Research & Development, USEPA	1986	Continuing

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To be determined	C,D,E	Eric Preston USEPA 200 SW 35th Street Corvallis, OR 97333 503/757-4666	University of Illinois	Cumulative Impacts	Develop a theoretical framework for cumulative impacts and landscape function. Study cumulative effects of Illinois wetlands on landscape function.	Office of Research & Development, USEPA	1986	Continuing
To be determined	E	Eric Preston USEPA 200 SW 35th Street Corvallis, OR 97333 503/757-4666		Constructed Wetlands	Study the ecological condition and habitat quality of six free water surface municipal constructed wetlands. Develop a database for 100 municipal constructed wetlands in the U.S.	Office of Research & Development, USEPA	1986	Continuing
To be determined	E	Eric Preston USEPA 200 SW 35th Street Corvallis, OR 97333 503/757-4666	Louisiana State University King County, WA University of Wisconsin	Water Quality	Assess recovery of freshwater wetland water-quality status and function following disturbance. Evaluate numeric water quality criteria for wetlands protection.	Office of Research & Development, USEPA	1986	Continuing
To be determined	A,B,C, D,E	Eric Preston USEPA 200 SW 35th Street Corvallis, OR 97333 503/757-4666	Louisiana State University Iowa State University	Environmental Monitoring & Assessment Program	Provide quantitative assessment of the current status and long-term trends in wetland condition on regional and national scales.	Office of Research & Development, USEPA	1988	Continuing

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Ortiz Mountains (near Cerrillos), New Mexico	Constructed	David R. Dreesen Plant Materials Center USDA Soil Conservation Service 1036 Miller St. SW Los Lunas, NM 87031 505/865-4684	Pegasus Gold Corp., Ortiz Project, Joint Venture	Feasibility Study of Constructed Wetlands to Remove Cyanide and Nitrate in Waste Water from Gold Mining Operations	Determine cyanide and nitrate removal rates in pilot constructed wetland systems using gravel substrates and subsurface flow. Compare contaminant removal efficiency and evapotranspiration among <i>Ilysis</i> , <i>Scirpus</i> , and <i>Phragmites</i> .	Pegasus Gold Corp.	FY 1991	FY 1993
10	E	Chris Hoag, Assistant Manager Aberdeen Plant Materials Center USDA Soil Conservation Service PO Box AA 1693 South 2700 West Aberdeen, Idaho 83210	USDI Bureau of Reclamation	American Falls Reservoir Shoreline Project	Evaluate, select, and release cooperatively the best adapted willow and poplar species for critical area stabilization and wildlife enhancement. Evaluate different planting techniques and sizes of cuttings. Drawdown zones and severe wave erosion are major problems.	USDI Bureau of Reclamation	FY87	FY93
MI	C	Philip L. Koch, Manager Plant Materials Center USDA Soil Conservation Service 7472 Stoll Road East Lansing, Michigan 48823-9807 517/641-6300	None	Project 26110dE, Assembly and Evaluation of Willow Species (<i>Salix</i> spp.) for Restoration of Riparian Areas in the Midwest Region	Assemble, evaluate, select, and release one or more superior cultivars for use in stabilizing riparian areas, control soil erosion, improve water quality, and enhance fish and wildlife habitat	USDA SCS	FY92	FY94

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MI	E	Philip L. Koch, Manager Plant Materials Center USDA Soil Conservation Service 7472 Stoll Road East Lansing, Michigan 48823-9807 517/641-6300	None	Project 261104F. Assembly and Evaluation of <u>Equisetum</u> spp.	Select and release source-identified ecotypes for commercial production and distribution.	USDA SCS	FY91	FY95
MI	E	Philip L. Koch, Manager Plant Materials Center USDA Soil Conservation Service 7472 Stoll Road East Lansing, Michigan 48823-9807 517/641-6300	None	Project 2611050. Initial Evalua- tion of Native Wetland Species for Constructed Wetlands in the Great Lakes Region	Study the germination, establishment, and seed production of selected native wetland species- <u>Scirpus</u> spp. and <u>Spartagnum eurycarpum</u> .	USDA SCS	FY91	FY95
IL	B,E	Joy E. Marburger, Wetland Plant Ecologist Des Plaines River Wetland Demonstra- tion Project USDA Soil Conservation Service P.O. Box 255 Madsworth, Illinois 708/244-9003	US Environmental Protection Agency 230 South Dearborn Chicago, Illinois The Wetland Research, Inc. Des Plaines River Wetland Demon- stration Project Madsworth, Illinois	Plant Materials Technology Devel- opment for Wet- land Enhancement, Restoration, and Creation in Cool Temperate Regions of the United States	Identify plant materi- als technology needs, summarize past and cur- rent research, and develop a plan for plant materials tech- nology transfer to the USDA SCS field office level.	USDA SCS	FY91	FY92
ND	E	Dwight A. Tober, Manager Plant Materials Center USDA Soil Conservation Service 3310 University Drive Bismarck, North Dakota 58502 701/223-8536	None	Project 361021W, assembly and evaluation of white-top <u>Scolochloa</u> <u>festuacea</u> (Willd.) Link	Select and release northern source- identified ecotypes for commercial production and distribution.	USDA SCS	FY91	FY94

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ND	E	Dwight A. Tober, Manager Plant Materials Center USDA Soil Conservation Service 3310 University Drive Bismarck, North Dakota 58502 701/223-8536	None	Project 381020W, assembly and evaluation of prairie cordgrass <u>Spartina</u> <u>pectinata</u> Link	Select and release northern source- identified ecotypes for commercial production and distribution.	USDA SCS	FY91	FY94
KS	E	Richard L. Wynia, Manager Plant Materials Center USDA Soil Conservation Service 3800 South 20 Street Manhattan, Kansas 66502 913/539-8761	None	Advanced evalua- tion of (PI 421524) common reed phragmites <u>austriacis</u> Trin	Release and increase of a source-identified ecotype for commercial production.	USDA SCS	FY73- FY74	FY92
KS	E	Richard L. Wynia, Manager Plant Materials Center USDA Soil Conservation Service 3800 South 20 Street Manhattan, Kansas 66502 913/539-8761	None	Initial-advanced evaluations of (PI 421595) prairie cordgrass <u>Spartina</u> <u>pectinata</u> Link	Release and increase of a source-identified ecotype for commercial production.	USDA SCS	FY66- FY70	FY92

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ID	C,E	Gary Young, Manager Aberdeen Plant Materials Center USDA Soil Conservation Service PO Box AA 1693 South 2700 West Aberdeen, Idaho 83210	US Bureau of Land Management, USDI Bureau of Reclamation, USFS, USFWS, Idaho Department of Fish and Game, Idaho Department of Lands, and Utah Department of Agriculture	Interagency Riparian/Wetland Plant Development Project	Select and develop performance tested riparian/wetland species ecotypes and release for commercial production; determine economical commercial production techniques; transfer technology of constructed and created wetlands and riparian/wetland restoration for the Intermountain and Great Basin area	USDA SCS and cooperating agencies	FY91	FY2000

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NC, SC	C,E	Marilyn A. Buford Southeastern Forest Experiment Station 2730 Savannah Highway Charleston, SC 29407 803/724-4271	William J. Hammond, Westvaco Corp., Sommerville, SC Joe Hughes, Meyerhauser Co., New Bern, NC	Nitrogen Fertilization of Atlantic White Cedar	Determine whether Atlantic white cedar is responsive to nitrogen fertilization on a moderately well-drained site on the lower Coastal Plain.	USFS, Westvaco Corp., Meyerhauser Co.	12/90	9/94 Interim analysis
SC	E	Marilyn A. Buford Southeastern Forest Experiment Station 2730 Savannah Highway Charleston, SC 29407 803/724-4271	Donal D. Hook and William Steele, Clemson University	Stand Dynamics Under Four Methods of Restoring a Bottomland Hardwood Stand	Compare efficacy of silvicultural treatments in restoring the function and value of a damaged bottomland hardwood stand, and evaluate and expand existing stand dynamics model for mixed bottomland sites.	USFS	FY91	9/94 Interim report on treatment differences; Final report 2026
SC	C,E	Marilyn A. Buford Southeastern Forest Experiment Station 2730 Savannah Highway Charleston, SC 29407 803/724-4271	Claire G. Williams and Joe Hughes, Meyerhauser Co., Francis Marion National Forest	Growth and Survival of Atlantic White-Cedar on the Lower Coastal Plain of South Carolina	Determine survival and growth rate characteristics of Atlantic white cedar rooted cuttings on organic soils, and evaluate suitability of cedar for wetland restoration in the Lower Coastal Plain	USFS, Meyerhauser Co.	FY91	Sept., 2009 (Interim products will be available)
ID	C,E	Warren Clary Forestry Sciences Laboratory 316 E. Myrtle St. Boise, Idaho 83702 208/334-1457		Riparian-Stream Ecology and Management	Develop an improved understanding of riparian and stream habitats, including associated wetlands, and improved methods of managing them for conservation of resources and production of live-stock, wildlife, and fish.	USFS	FY91	FY96

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
SC	E	Donal D. Hook Clemson University Clemson, SC 29631 803/656-3591	William H. McKee, Jr., USFS	Selection for Flooding Tolerance in Loblolly Pine	Select loblolly pine genotypes that are tolerant of very poorly drained conditions.	USFS	FY90	4/92
MS, LA	C,E	Harvey E. Kennedy, Jr. Southern Hardwoods Laboratory Box 227 Stoneville, MS 38776 601/686-7218	Mississippi State Univ., USACE WES, Louisiana State Univ., USFWS National Wetlands Research Center	Regeneration and Management of Southern Hardwoods	Provide the practical silvicultural methods and guidelines necessary for the regeneration and multiple-use management of southern bottomland hardwoods. Includes consideration of threatened and endangered species, greentree reservoir management, and re-vegetation technology.	USFS	1937	Variable, depending on study
SC	E	William H. McKee, Jr. Southeastern Forest Experiment Station 2730 Savannah Highway Charleston, SC 29407 803/724-4271	USFS, Francis Marion National Forest	Ecology and Management of Forested Wetlands in the Southeastern Coastal Plain	Determine if phosphorus can be used to convert very poorly drained low fertility hardwood sites to a mixed pine-hardwood stand without drainage or other site preparation treatments.	USFS	FY91	FY96
SC	C,E	William H. McKee, Jr. Southeastern Forest Experiment Station 2730 Savannah Highway Charleston, SC 29407 803/724-4271	Clemson University, Westinghouse Corp., Savannah River Forest Station	Vegetative Survey--Savannah River Plant	Determine the woody species regenerating on thermally impacted areas as compared to unimpacted areas; results will indicate successional trends and thermal impact on wetland vegetation.	USFS, DOE	FY90	10/92

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
SC	E	Martha R. McKeivin Southeastern Forest Experiment Station 2730 Savannah Highway Charleston, SC 29407 803/724-4271	Donal D. Hook, Clemson University	Ecology and Management of Forested Wetlands in the Southeastern Coastal Plain	Determination of the effects of light levels on gas exchange properties, growth, and morphological characteristics of 3 bottomland forest species: shumard oak, swamp chestnut oak, and green ash. Information is needed to evaluate site restoration following disturbance.	USFS	FY90	9/92
SC	C,D	Martha R. McKeivin Southeastern Forest Experiment Station 2730 Savannah Highway Charleston, SC 29407 803/724-4271	Donal D. Hook, Clemson University	Ecology and Management of Forested Wetlands in the Southeastern Coastal Plain	Determine differences in physiological responses between bare root green ash and cherry bark oak seedlings, and containerized cherrybark oak under conditions of repeated short-term flooding events throughout the growing season.	USFS	FY90	4/92
MN, MI, WI	D,E	Lewis Ohmann Forestry Sciences Laboratory 1831 Highway 169 East Grand Rapids, MN 55744 218/326-7100		Water Quality Management in Forests of the Western Great Lakes Region	Basic understanding of biogeochemical and hydrologic processes in ecosystems of the region, with some emphasis on peatlands. Determine influence of upland timber harvesting on water yield and quality from a bog-upland complex.	USFS	1965	Various

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
US	C,D,E	William C. Siegel Southern Forest Experiment Station US Postal Service Bldg. 701 Loyola Ave. New Orleans, LA 70113 504/589-6652	Fred Cabbage, USFS Southeastern Station	Evaluation of Legal, Tax, and Economic Influ- ences on Forest Resource Management	Trends in wetland development as influ- enced by economic factors. Analysis of legislative and regula- tory factors affecting forested wetland man- agement. Assessment of changing timber supply in south under current wetland regulations.	USFS	FY88	Contin- uing

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
MS, NC	B	David Colby 919/728-8734 Don Moss 919/728-8746 NOAA NMFS, Beaufort Laboratory	Susan Reese USAE Mobile District Note Marine Lab. Waterways Experiment Station	Effects of Thin Layer Disposal on Fishery Organisms	Evaluate effects of thin-layer disposal on behavior, growth, and survival of fishery organisms.	USAE Mobile District	FY91	FY96
LA	E	Donald Field 919/728-8764 Gordon Thayer NOAA NMFS, Beaufort Laboratory Tom Minello NOAA NMFS Galveston Laboratory	State of Louisiana Federal Agencies NMFS Restoration Center	Breaux Bill Planning	Plan for restoration projects in Louisiana.	Breaux Bill Trust Fund	FY92	
NC	B	M.S. Fonseca NOAA NMFS, Beaufort Laboratory 919/728-8729	Douglas Clark NES	Data Analysis for NMFS-COE 1985-1988 MOA	Evaluate plant and faunal development data from three marsh creation sites in NC. Report development.	Joint NES NOAA NMFS, Beaufort Laboratory	FY92	FY93
NC, FL	B	M.S. Fonseca NOAA NMFS, Beaufort Laboratory 919/728-8729	Susan Bell, Univ. of South Florida Dr. Mike Durako, South Florida Research Institute	Accelerating Development of Restored Seagrass Meadows	Assess approaches to accelerating development using fertilizer and organic additions on Lab grown plants. Evaluate faunal use and dynamic parameters.	NOAA Coastal Ocean Program NOAA NMFS, Beaufort Laboratory	FY91	FY93

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
Southeast US	B	Andreas Hager NOAA NMFS SE Regional Office 813/893-3503 Gordon Thayer NOAA NMFS Beaufort Laboratory	Corps Districts in the NMFS SE Region	NMFS-COE Memorandum of Agreement	Develop list of potential restoration sites in COE Civil Works Projects. Site evaluation for final listings to Headquarters.	NOAA NMFS	FY91	Continuing
TX	B	Thomas Minello NOAA NMFS Galveston Laboratory 409/766-3506		Data Analysis for NMFS-COE 1985-1989 MOA	Continue analysis of data.	NOAA NMFS Galveston Laboratory	FY92	FY93
TX	B	Thomas Minello NOAA NMFS Galveston Laboratory 409/766-3506	James Webb, Texas A & M Univ.	Assessment of Success of Salt Marsh Restoration of Different Ages in Texas	Develop criteria for evaluation and statistical assessment of created marshes of different ages in reference to natural marshes.	NOAA Coastal Ocean Program NOAA NMFS, Galveston Laboratory	FY91	FY93
NC	B	Gordon Thayer NOAA NMFS Beaufort Laboratory 919/728-8747	Hans Paerl, Univ. of North Carolina, Inst. of Mar. Sci. Steve Broome, Ernie Seneca, Lisa Levin, North Carolina State Univ.	Accelerating Development of Restored Salt Marshes	Investigate the role of sediment organic amendments on plant development, nitrogen cycling, and infaunal development.	NOAA Coastal Ocean Program NOAA NMFS, Beaufort Laboratory	FY91	FY93

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
TX, AL	A,B,C, D,E	James Johnston US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Natural Resource Inventory and Wetland Change Analyses Within Selected Areas of the United States. Work Unit No. 402.02	Develop digital georeferenced data bases to assess effects of development on wet- land and predict future impacts.	USFWS, USEPA, miscellaneous	FY87	FY93
CA	C,D, E	James Johnston US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Agricultural Drain Water and Other Contaminant Problems in the San Joaquin Valley, CA. Work Unit No. 402.03	Develop digital georeferenced data bases to assess effects of development on wet- land and predict future impacts.	USFWS, USEPA, miscellaneous	FY88	FY92
AL	A,B,C, D,E	James Johnston US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Fate and Effects of Contaminated Sediments in Estuaries: Mobile Bay. Work Unit No. 404.01	Determine the potential risk to identified fish and wildlife from con- taminated sediments through the utilization of GIS technology and field experiments.	USFWS	FY86	FY93
TX	A,B,C, D,E	James Johnston US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Fate and Effects of Contaminated Sediments in Estuaries: Galveston Bay. Work Unit No. 404.02	Determine the potential risk to identified fish and wildlife from con- taminated sediments through the utilization of GIS technology and field experiments.	USFWS	FY86	FY93

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
LA	A,B,C, D,E	Larry Handley US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	National Wetlands Inventory, USFWS, USAE New Orleans District, USGS Coastal Geology Division, and Louisiana DNR Coastal Management Division	Coastal Louisiana Wetland Reinv- entory-Photo- acquisition and Habitat Map Pre- paration. Work Unit No. 407.01	Provide habitat maps, ecological atlases, and airborne photography and video to assess effects of development on wetlands and to pre- dict future impacts.	USFWS Miscellaneous	FY88	FY92
FL, LA, TX, MS, AL, CA	A,B,C, D,E	Larry Handley US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	USEPA, Galveston Bay National Estuarine Program, State of Alabama, State of Louisiana	Habitat Mapping, Ecological Atlas Development, and Airborne Video. Work Unit No. 407.02	Provide habitat maps, ecological atlases, and airborne photography and video to assess effects of development on wetlands and to pre- dict future impacts.	USFWS Miscellaneous	FY88	FY93
LA	A,B,C, D,E	Larry Handley US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Chandeleur Islands Seagrass Change Analysis. Work Unit No. 407.03	Provide habitat maps, ecological atlases, and airborne photography and video to assess effects of development on wetlands and to pre- dict future impacts.	USFWS Miscellaneous	FY88	F
LA	A,B,C, D,E	James Johnston US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Data Base Devel- opment and Geo- graphic Analyses. Work Unit No. 408.01	Develop digital spa- tial data bases; inte- grate existing GIS data bases; archive and maintain all records; and provide analyses for wetland loss and habitat change.	USFWS	FY88	FY93

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
AL, CA, FL, LA, MS, TX	A,B,C, D,E	Elijah Ramsey US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Multiple Temporal and Spatial Remote Sensing Data as Inputs into a Land Cover Resource Geographical Information System. Work Unit No. 409.01	Develop remote sensing technologies utilizing satellite aircraft, helicopter platforms, and ground-based measurements to differentiate and inventory wetland types, characterize wetland status, and monitor wetland trends.	USFWS, Corps of Engineers, Miscellaneous	FY88	FY93
AL, CA, FL, LA, MS, TX	A,B,C, D,E	Elijah Ramsey US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Monitoring and Measuring Wetland Extent and Community Structure: A Synergistic Approach Using Various Remote Sensing Platforms and Ground-Based Measurements. Work Unit No. 409.02	Develop remote sensing technologies utilizing satellite aircraft, helicopter platforms, and ground-based measurements to differentiate and inventory wetland types, characterize wetland status, and monitor wetland trends.	USFWS, Corps of Engineers, Miscellaneous	FY88	FY93
MS, LA	A,B,C, D,E	James Johnston US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		An Evaluation of the Potential Impacts of Introduced Materials in Mississippi River and Atchafalaya River Water on Surrounding Wetland Plant and Animal Communities. Work Unit No. 411.01	Examine the impacts of contaminants and their physio-chemical process on wetlands plants and their associated fish and wildlife populations.	USFWS	FY89	FY93

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
LA	A,B,C, D,E	James Johnston US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		An Evaluation of Contaminants and Their Role in Wetland Losses and Function Val- ues. Work Unit No. 411.03	Examine the impacts of contaminants and their physio-chemical process on wetlands plants and their associated fish and wildlife popula- tions.	USFWS	FY92	To be deter- mined
FL, GA, LA, TX	A,B,C, D,E	Elijah Ramsey US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Measuring and Monitoring the Wetland Response to Changes in Coastal Hydrology and Water Quality as a Function of Sea Level Rise. Work Unit No. 412	Determine the response of coastal wetland species zonation to changes in hydrology and water quality as a result of global cli- mate changes and sea level rise.	USFWS	October 1990	Septem- ber 1995
Coastal Gulf of Mexico	A,B	Larry Handley US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	USEPA Environmental Monitoring and Assessment Program (EMAP), State of Florida	Submerged Aquatic Vegetation Map- ping for the Coastal Gulf of Mexico. Work Unit No. 414	Develop a digital data base on submerged aquatic vegetation (SAV) and assess status and condition of SAV beds in the Gulf of Mexico.	USFWS USEPA	October 1991	October 1996
LA	A,B,C, D,E	Bruce Pugesek US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Nonexperimental Statistical Meth- ods for Wetland Research. Work Unit No. 415.01	Provide research in the areas of statistics and quantitative ecology.	USFWS	FY92	FY93

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UY	D	Bruce Pugsek US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Life History and Population Studies of California Gulls Nesting at Bamforth Lake, Albany County, NY. Work Unit No. 415.02	Provide research in the areas of statistics and quantitative ecology.	USFWS	FY91	FY96
American Southwest Desert; Atlantic Coastal Dunes and Swales, Buzzards Bay, Massachusetts; Atlantic Coast Maritime Forests; Southeast Pitcher Bogs; Humboldt Bay, California; New England Forested Wetlands; Pacific Northwest Intertidal Wetlands; Puget Sound, Washington	A,B,C, D,E	Virginia Van Sickle US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	Contracted authors (usually numerous university scientists)	Management and Production of the Community and Estuarine Profile Series. Work Unit No. 503	Synthesize published and unpublished scientific data on the ecology of selected biological communities and estuaries of the United States.	USFWS	FY81	FY92

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
TX	B,E	James Allen, Thomas Doyle, Hilary Neckles, and Christopher Oruf US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard 504/646-7297		Seagrass Studies in Laguna Madre, Texas. Work Unit No. 504.07	Develop predictive models to predict habitat changes in coastal (estuarine and palustrine) wetlands.	USFWS, Corps of Engineers, Miscellaneous	FY87	FY92
LA	A,B	Hilary Neckles US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard 504/646-7297		Seagrass Studies in Chandeleur Sound. Work Unit No. 504.08	Provide information on physical disturbance and seagrass relations for predictive models of habitat changes in coastal (estuarine) wetlands.	USFWS, Corps of Engineers, Miscellaneous	FY88	FY92
LA	B,E	Thomas Doyle US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Barataria Basin Spatial Simulation Modeling. Work Unit No. 504.09	Develop predictive models to predict habitat changes in coastal (estuarine and palustrine) wetlands.	USFWS, Corps of Engineers, Miscellaneous	FY88	FY92
LA	B,E	Thomas Doyle US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Spatial Simulation Modeling of Jean Lafitte National Park: Barataria Unit and Fina Latere. Work Unit No. 504.10	Develop predictive models to predict habitat changes in coastal (estuarine and palustrine) wetlands.	USFWS, Corps of Engineers, Miscellaneous	FY91	FY93

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
Southeast US		James Allen US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Bottomland Hard- wood Restoration Publications. Work Unit No. 505.01	Develop information on bottomland hardwood restoration and moist- soil impoundment cre- ation methodologies.	USFWS	FY87	FY92
LA, MS		James Allen US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Publications on Construction and Management of Moist-Soil Impoundments. Work Unit No. 505.04	Develop information on bottomland hardwood restoration and moist- soil impoundment cre- ation methodologies.	USFWS	FY89	FY92
LA	B.D, E	Rebecca Howard US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	Louisiana State University	Response of Her- baceous Fresh- water Marsh Spe- cies to Increased Salinity and Water Level. Work Unit No. 506.02	Quantify the effects of increased salinity and water depth on growth and survival of several species of common freshwater marsh plants in field and greenhouse conditions.	USFWS, State of Louisiana	FY89	FY93
LA	B.D, E	Janet Keough and James Grace US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	Louisiana State University	Effect of Water- logging and Sal- inity on Competi- tive Ability in Coastal Marsh Plant Species. Work Unit No. 506.03	Examine the effects of salinity and water- logging, including aspects of frequency and amplitude of salinity variation, on individual plant growth and competitive ability.	USFWS, State of Louisiana	FY89	FY93

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
LA	B	Lee Foote US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	LUMCON, Louisiana State University, University of Southwestern Louisiana, USGS	An Ecological Analysis of Marsh Management in Coastal Louisiana: Processes Related to the Fertility of Marsh Ecosystems. Work Unit No. 507.01	Determine the effectiveness of wetland management practices to restore deteriorating wetlands and maintain existing wetlands in the Louisiana coastal zone.	USFWS	FY89	FY93
LA	B,E	Lee Foote US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	LUMCON, Louisiana State University, University of Southwestern Louisiana, USGS	Effects of Marsh Impoundment and Plant Growth Environment of Louisiana's Deltaic Wetlands Work Unit No. 507.02/03	Determine the effectiveness of wetland management practices to restore deteriorating wetlands and maintain existing wetlands in the Louisiana coastal zone.	USFWS	FY90	FY95
Southeastern US	B	Donald Cahoon US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Interactions Between Sea Level Rise and Vertical Accretion of Marshes in the Southeastern United States. Work Unit No. 508.01	Determine the role of wetland plant communities in balancing sediment accretion with apparent sea level rise across a gradient of wetland stability.	USFWS	FY91	FY95
NC	B	Donald Cahoon US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	Duke University	The Impact of Sea Level Rise on the Coastal Wetlands in Albemarle and Pamlico Sounds, North Carolina: A Study of Wetland Dynamics. Work Unit No. 508.02	Determine the role of wetland plant communities in balancing sediment accretion with apparent sea level rise across a gradient of wetland stability.	USFWS	FY91	FY94

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
FL, LA, NC, SC, TX	A,B,C, D,E	Hilary Neckles US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	University of New Hampshire	Review of Potential Effects of Global Climate Change on Submerged Aquatic Vegetation in Coastal Habitat. Work Unit No. 509.01	Provide information of potential effects of global climate change on production and community structure in submersed aquatic vegetation.	USFWS	FY91	FY92
FL, LA, NC, SC, TX	B	Hilary Neckles US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Response of Submerged Macrophyte Communities to Salinity Stress. Work Unit No. 509.02	Determine the effects of salinity increases associated with sea-level rise on production and community composition of submerged macrophytes.	USFWS	FY91	FY94
FL, LA, NC, SC, TX	A,B	Hilary Neckles US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	Virginia Institute of Marine Science	Ecosystem Modeling and Simulation Analysis of Subtropical and Tropical Seagrass Systems: Response to Selected Global Climate Change Variable. Work Unit No. 509.03	Predict effects of global climate change variables on production and community structure of subtropical and tropical seagrasses.	USFWS	FY91	FY93
Southeastern US Coastal Zone	B,C	James Allen US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Synthesis of Existing Information on Effects of Global Change on Cypress-Tupelo and Mangrove Wetlands. Work Unit No. 510.01	Determine the effects of global climate change on structure, function, extent, and distribution of cypress-tupelo and mangrove wetlands of the Gulf of Mexico coastal zone.	USFWS	FY91	FY93

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
LA	C	James Allen US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Effects of Salt Water Intrusion on Cypress-Tupelo Wetlands of Southern Louisi- ana. Work Unit No. 510.02	Determine the effects of global climate change on structure, function, extent, and distribution of cypress-tupelo wetlands of the Gulf of Mexico coastal zone.	USFWS	FY91	FY95
SC	C	James Allen US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	Baruch Forest Science Institute, Clemson University	Response to For- ested Wetland Seedlings to Flooding and Increased Salinity. Work Unit No. 510.03	Determine the effects of global climate change on structure, function, extent, and distribution of cypress-tupelo and man- grove wetlands of the Gulf of Mexico coastal zone.	USFWS	FY91	FY94
LA	C	James Allen US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	Louisiana State University	Evaluation of Herbivory in Baldcypress and its Relationship to Flooding as Influenced by Global Change. Work Unit No. 510.04	Determine the effects of global climate change on structure, function, extent, and distribution of cypress-tupelo and man- grove wetlands of the Gulf of Mexico coastal zone.	USFWS	FY91	FY93
Any coastal area	A,B	Thomas Doyle US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Review and Syn- thesis of Dynamic Simulation Models for Predicting Global Climate Change Effects on Coastal Wetlands. Work Unit No. 511.01	Evaluate the cumulative effects of natural and anthropogenic impacts, including predicted global climate change on habitat function diversity for regional assessments.	USFWS	FY91	FY92

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
FL, LA	A, B	Thomas Doyle US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Modeling and Detecting the Effects of Fire and Hurricane Disturbance on Coastal Wetland Systems: Solving Problems of Eco- logical Scale and Hierarchy. Work Unit No. 511.02	Evaluate the cumulative effects of natural and anthropogenic impacts, including predicted global climate change on habitat function and diversity for regional assessments.	USFWS	FY91	FY94
FL	A, B	Thomas Doyle US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	Louisiana State University	Evaluation of Effects of Large- Scale Distur- bances on Gulf Coastal Wetlands. Work Unit No. 511.03	Evaluate the cumulative effects of natural and anthropogenic impacts, including predicted global climate change on habitat function and diversity for regional assessments.	USFWS	FY91	FY94
LA		William Hohman US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Movements, Time- Activity Budgets, Habitat Use, and Survival of Female Canvasback Ducks Wintering in Louisiana. Work Unit No. 601.03	Determine and quantify sources of nonhunting mortality and size of population; population sex structure; feeding ecology and body com- position changes; move- ments, time-activity budgets, and habitat use.	USFWS	FY87	FY94
Mississippi Alluvial Valley		Carroll Cordes US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Estimation of Visibility Bias for Experimental Aerial Surveys of Wetlands Winter- ing in the Mis- sissippi Alluvial Valley. Work Unit No. 602.02	Determine total numbers and proportion of mal- lards wintering in the Mississippi Alluvial Valley and determine visibility bias correc- tions for estimates of mallard population densities.	USFWS	FY88	FY93

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SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
TX	B	Marc Woodin US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Foraging Ecology of Redheads Wintering in South Texas. Work Unit No. 603.01	Determine contaminant levels, population sizes, sex ratios, dis- tribution, feeding ecology, body composi- tion changes, and habitat use of diving ducks; and determine factors limiting diving duck food resources.	USFWS	FY87	FY93
TX	B,E	Marc Woodin US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Condition and Time-Activity Budgets of Red- heads Wintering in South Texas. Work Unit No. 603.02	Determine contaminant levels, population sizes, sex ratios, dis- tribution, feeding ecology, body com- position changes, and habitat use of diving ducks; and determine factors limiting diving duck food resources.	USFWS	FY87	FY92
TX	B	Marc Woodin US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	University of Texas Marine Science Institute	Role of Nutrients of Distribution and Ecology of Seagrasses in the Laguna Madre. Work Unit No. 603.03	Determine contaminant levels, population sizes, sex ratios, dis- tribution, feeding ecology, body composi- tion changes, and habitat use of diving ducks; and determine factors limiting diving duck food resources.	USFWS	FY87	FY93
Texas and the western Gulf of Mexico region	B,E	Marc Woodin US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	University of Texas Marine Science Institute	Interrelation- ships of Redhead Habitats, Nutri- ents, and Chemi- cal isotopes. Work unit No. 603.05	Determine contaminant levels, population sizes, sex ratios, dis- tribution, feeding ecology, body composi- tion changes, and habitat use of diving ducks; and determine factors limiting diving duck food resources.	USFWS	FY90	FY93

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
TX	E	Marc Woodin US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Impact of Wintering Redhead Duck Use on Water Quality of a South Texas Urban Pond. Work Unit No. 603.06	Determine contaminant levels, population sizes, sex ratios, distribution, feeding ecology, body composition changes, and habitat use of diving ducks; and determine factors limiting diving duck food resources.	USFWS	FY91	FY93
Laguna Madre De Tamaulipas	B, E	Marc Woodin US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	Autonomous University of Tamaulipas	Winter Ecology of Redheads (<i>Aythya americana</i>) in the Laguna Madre de Tamaulipas. Work Unit No. 603.07	Determine contaminant levels, population sizes, sex ratios, distribution, feeding ecology, body composition changes, and habitat use of diving ducks; and determine factors limiting diving duck food resources.	USFWS	FY92	FY94
LA		Thomas Michot US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Contaminant Body Burdens and Parasite Loads of Wintering Redheads Near the Chandeleur Islands, Louisiana. Work Unit No. 604.02	Determine contaminant levels, population sizes, sex ratios, distribution, feeding ecology, body composition changes, and habitat use of diving ducks; determine blood levels of hormones and monamines.	USFWS	FY87	FY92
FL		Thomas Michot US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Contaminant Body Burdens of Wintering Redheads (<i>Aythya americana</i>) in Apalachee Bay, Florida. Work Unit No. 604.04	Determine contaminant levels, population sizes, sex ratios, distribution, feeding ecology, body composition changes, and habitat use of diving ducks; determine blood levels of hormones and monamines.	USFWS	FY91	FY94

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Pelustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
MS, AR	E	Dan Tweedt US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		HSI Model Validation and Revision: Mallard. Work Unit No. 605.02	Design and initiate HSI model evaluation studies and complete HSI model revisions.	USFWS	FY88	FY92
		Carroll Cordes US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		HSI Model Validation and Revision: Pintail. Work Unit No. 605.03	Revise and update HSI model for the pintail.	USFWS	FY89	FY92
N/A		Carroll Cordes US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Improvement of HSI Models for Forrester's Tern, White Ibis, and Laughing Gull. Work Unit No. 605.04	Design and initiate HSI model evaluation studies and complete three HSI model revisions.	USFWS	FY91	FY93
LA	B,D, E	Clint Jeske US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Seasonal Distribution and Movement of Pintails (<i>Anas acuta</i>) in Louisiana. Work Unit No. 608.01	Determine distribution and movement patterns; habitat use and requirements; winter survival; and relationships between nutritional regimes and reproductive performance in the winter area.	USFWS	FY91	FY95

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
LA	D, E	Clint Jeske US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	Louisiana Coopera- tive Fish and Wild- life Unit	Nocturnal Move- ments, Habitat Use, and Survival of Female North- ern Pintails in Southwestern Lou- isiana. Work Unit No. 608.02	Determine distribution and movement patterns; habitat use and requirements; winter survival; and relation- ships between nutri- tional regimes and reproductive perfor- mance in the winter area.	USFWS	FY91	FY95
		Clint Jeske US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Annotated Bibli- ography of North- ern Pintail Biol- ogy. Work Unit No. 608.03	Develop a bibliography data base for northern pintails.	USFWS	FY91	FY92
Gulf of Mexico	B, C, D, E	Clint Jeske US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	Alaska Fish and Wildlife Research Center	Identification of Subpopulations of Northern Pintails in the Gulf of Mexico Region. Work Unit No. 608.04	Identify biomarkers that may be used to identify wintering areas of breeding pintails.	USFWS	FY92	FY95
Northern Coast of the Gulf of Mexico		Carroll Cordes US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Use of Stopover Habitats along the Northern Coast of the Gulf of Mexico by Neo- tropical Landbird Migrants. Work Unit No. 610.01	Determine the qualita- tive and quantitative aspects of migrant stopover habitats remaining in coastal Louisiana, Mississippi, and Alabama, and the rates and causes of habitat loss.	USFWS	FY91	FY94

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
LA, MS, AL		Carroll Cordes US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Analysis of Trends in Avail- ability of Stop- over Habitats to Neotropical Land- bird Migrants. Work Unit No. 610.02	Determine the qualita- tive and quantitative aspects of migrant stopover habitats remaining in coastal Louisiana, Mississippi, and Alabama, and the rates and causes of habitat loss.	USFWS	FY91	FY94
Northern Gulf of Mexico coast		Carroll Cordes U.S. Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Energy Relation- ships Between Neotropical Land- bird Migrants and Different Stop- over Habitats along the North- ern Gulf of Mexico Coast. Work Unit No. 610.03	Determine the qualita- tive and quantitative aspects of migrant stopover habitats remaining in coastal Louisiana, Mississippi, and Alabama, and the rates and causes of habitat loss.	USFWS	FY92	FY95
Mississippi Alluvial Valley	E	Dan Tvedt US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	Louisiana Technical University	Mallard Use and Food Availability on Flooded Crop- lands in the Mis- sissippi Alluvial Valley. Work Unit No. 611.01	Determine the food availability on flooded croplands and quantify their use by mallards and other water- dependent birds.	USFWS	FY91	FY96
Mississippi Alluvial Valley	E	Dan Tvedt US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297		Quantifying the Abundance and Distribution of Mallard Habitat Within the Mis- sissippi Alluvial Valley. Work Unit No. 611.02	Determine the distribu- tion and abundance of wetland habitats in the Mississippi Alluvial Valley and relate their distribution to the abundance of mallards.	USFWS	FY92	FY96

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
AR, MS		Dan Twedt US Fish and Wildlife Service National Wetlands Research Center 1010 Gause Boulevard Slidell, LA 70458 504/646-7297	Pine Bluff Cooperative Fisheries Research Project	Sampling, Identification, and Processing of Seed and Invertebrates from Temporary Wetlands. Work Unit No. 611.03	Quantify the food abundance on temporary wetlands over time.	USFWS	FY91	FY94

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
OR	D	James J. Sartoris US Bureau of Reclamation PO Box 25007, D-3742 Denver, CO 80225-0007 303/236-6004 (Fax: 303/236-7006)	Upper Klamath Lake; Klamath Tribe; USGS; USFWS; Klamath Project Office, USBR	Wetland Ecology and Utilization	Develop USBR's capability to restore, construct, and manage wetlands so as to integrate habitat enhancement with water quality and hydrologic functional utilization.	Water Technology and Environmental Research (Water) Program, USBR, Denver Office	FY90	FY95
CA	E	James J. Sartoris US Bureau of Reclamation PO Box 25007, D-3742 Denver, CO 80225-0007 303/236-6004 (Fax: 303/236-7006)	Eastern Municipal Water District; California Dept. of Fish and Game; USFWS; Lower Colorado Region, USBR	Wetland Ecology and Utilization	Develop USBR's capability to restore, construct, and manage wetlands so as to integrate habitat enhancement with water quality and hydrologic functional utilization.	Water Technology and Environmental Research (Water) Program, USBR, Denver Office	FY90	FY95
ID	C	James J. Sartoris US Bureau of Reclamation PO Box 25007, D-3742 Denver, CO 80225-0007 303/236-6004 (Fax: 303/236-7006)	American Falls Reservoir; Kinidoka Project, USBR	Wetland Ecology and Utilization	Develop USBR's capability to restore, construct, and manage wetlands so as to integrate habitat enhancement with water quality and hydrologic functional utilization.	Water Technology and Environmental Research (Water) Program, USBR, Denver Office	FY90	FY95
ND	C	James J. Sartoris US Bureau of Reclamation PO Box 25007, D-3742 Denver, CO 80225-0007 303/236-6004 (Fax: 303/236-7006)	Heart Butte Reservoir; Missouri-Souris Projects Office, USBR	Wetland Ecology and Utilization	Develop USBR's capability to restore, construct, and manage wetlands so as to integrate habitat enhancement with water quality and hydrologic functional utilization.	Water Technology and Environmental Research (Water) Program, USBR, Denver Office	FY90	FY95

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
AR	E	Gerard J. Gonthier 2301 Federal Office Building Little Rock, AR 72201	USAE WES, Vicksburg, MS	Wetland Research Project, Black Swamp, Cache River, Woodruff County, Arkansas	Define surfacewater budget of the Black Swamp wetland; Define sediment budget of the wetland; Evaluate the groundwater flow system of the wetland; Assist in collection of water-quality data; Assist in interpretation re total functions of the wetlands.	USGS USAE WES, Vicksburg, MS	FY87	FY92
CO	C,E	Briant A. Kimball		Mechanisms of Stream Recovery from Metal Contamination	Water from abandoned mine tailings contributes large amounts of cadmium, copper, iron, lead, manganese, nickel, and zinc to the Arkansas River. This project seeks to characterize the within-stream chemical processes that control the transport and distribution of these elements in streams in the Leadville area, including behavior of the metals in wetlands.	USGS Toxics Program	FY88	FY93

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
CO	E	Robert F. Middelburg Mail Stop 423 Denver Federal Center Lakewood, CO 80225	US Army, Rocky Mountain Arsenal, CO (USFWS and Colorado State University also involved, although not directly with USGS)	Surface-Water and Ground-Water Monitoring and Evaluation, Rocky Mountain Arsenal	Provide guidance and review of ground water investigations designed to estimate the effect of offsite activities and onsite remedial actions on ground water flow, ground water quality, contaminant migration and the relation between ground and surface water. Specifically, monitor the wetlands that were created (by USFWS and Army) and evaluate their impact on ground water.	USGS US Army	FY91	Continuing
US: especially NH, MD, NE, MN	D,E	Thomas C. Winter Mail Stop 413 Denver Federal Center Lakewood, CO 80225	USFWS, DC Headquarters USFWS, Denver, CO USDOT, FHWA Cornell University	The Role of Lakes in the Hydrologic System with Emphasis on their Relation to Ground Water	Gain an understanding of the basic principles controlling interaction of lakes, wetlands, and ground water, including associated chemical fluxes. Project also deeply involved in climate research, especially with respect to evaporation from small water bodies and wetlands.	USGS from: 1978-81 USFWS, DC Headquarters; 1979-81 USFWS, Denver CO; 1984-DOIT, FHWA 1979-81 Cornell Univ	FY73	Continuing
US: especially MD, NE MN	C,D,E	James W. LaBaugh Mail Stop 413 Denver Federal Center Lakewood, CO 80225		The Role of Chemical Fluxes in the Biogeochemistry of Inland Surface Waters, including Lakes, Reservoirs, and Wetlands	Understand the mechanisms controlling fluxes of biologically important chemical elements between surface waters, including lakes, reservoirs, and their watersheds.	USGS	FY85	Continuing

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
FL	E	Paul S. Hampson 224 W. Center Street, Suite 1006 Altamonte Springs, FL 32714	Reedy Creek Improvement District	Assessment of Water-Quality Processes Affect- ing Nutrients in Wetlands Stream	Define hydrologic envi- ronment of the Reedy Creek wetlands system in terms of water stor- age capacity, mean depth, stage duration, and water residence time. Evaluate role of wetlands in nutrient cycling and DO varia- tion. Measure nutri- ent-retention capacity of Reedy Creek Improve- ment District wetlands and effect of the wet- lands on downstream water quality	USGS Reedy Creek Improvement Dis- trict, FL	FY86	FY91 except report FY92 final report
FL	E	William R. Bidlake 4710 Eisenhower Blvd. Suite B-5 Tampa, FL 33634	Southwest Florida Water Management District Sarasota County West Coast (FL) Regional Water Supply Authority	Evapotranspira- tion from Areas of Native Vegeta- tion in Central Florida	Develop accurate esti- mates of evapo- transpiration (ET) from palmetto prairie, pine flat woods, grass ponds, and cypress heads in the Ringling MacArthur Reserve (RMR), and the Cypress Creek and Big Cypress Swamp area. Estimate total ET from RMR. Analyze for error in the estimated ET.	USGS from: 1987-90 Southwest Florida Water Management Dis- trict 1987-90 Sarasota County 1987-90 West Coast Regional Water Supply Authority	FY87	FY91 except report FY92 final report
FL	E	Edward R. German 224 W. Central St. Suite 1006 Altamonte Springs, FL 32714	Volusia County, FL St. Johns River Water Management District	A Direct Method- ology for Pre- dicting Wetland Responses to Hydrologic Stresses	Develop a direct, sim- ple methodology for estimating the effects or impacts of develop- ment on wetland hydrol- ogy when given measurable, physical parameters and variables.	USGS Volusia County, FL St. Johns River Water Management District	FY91	FY94

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
MA	C,E	US Geological Survey 28 Lord Road Suite 280 Marlborough, MA 01752	Massachusetts Water Resources Comm., Water Pollution Control	Predicting Wet- land Influences on Stream-Water Quality	Identify and define the relations among stream- water quality and phys- ical, hydrological, and climatological charac- teristics of wetlands. Develop equations for predicting dissolved oxygen and nutrient levels from easily- measured physical and hydrological character- istics of Massachusetts wetlands.	USGS from: 1988-90 Mas- sachusetts Water Resources Comm., Water Pollution Control	FY88	FY91 except final report
ME	E	William J. Nichols 26 Ganneston Drive Augusta, ME 04330	Maine Bureau of Geology, Dept. of Conservation	Hydrology of Peat Bogs in Maine	Determine the hydrology of two peat bog systems which may be applied to a quantitative flow analysis. Investigate accumulation of trace metals and nutrients in the undisturbed bog system. Estimate trace metal and nutrient dis- tribution based on peat removal.	USGS Maine Bureau of Geology, Dept. of Conservation	FY80	FY91 except final report
MI	D,E	Stephen J. Rheume 6520 Mercantile Way Suite 5 Lansing, MI 48911	Keweenaw Bay Indian Community	Water Resources of Keweenaw Bay, Michigan	Describe hydrology of the Assinins Wetland area in the southwest corner of Keweenaw Bay. Determine current water-quality condi- tions of the near shore area of Keweenaw Bay, its tributaries, and adjacent ground water.	USGS Keweenaw Bay Indian Community	FY91	FY92

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
NC	E	Maurice V. Treece, Jr. 3916 Sunset Road Raleigh, NC 27607	North Carolina Department of Natural Resources and Community Development	Estuarine Water Quality and the Management of Artificial Drain- age from Wetlands	Study the impact of artificial drainage of wetlands on the Albemarle-Pamlico Peninsula which has one of the largest contin- uous areas of wetlands in the Nation. To address: (1) downstream impacts of artificial- drainage management, and (2) the effects of intermittent freshwater drainage on nursery area salinity.	USGS North Carolina Department of Nat- ural Resources and Community Develop- ment	FY88	FY92
NJ	E	Kenneth S. Turner Mountain View Office Park 810 Bear Tavern Road Suite 206 West Trenton, NJ 08628	USFWS, Boston, MA	An Assessment of Impacts of Roll- ing Knoll Land- fill on Nearby Water Resources	Define the general geo- hydrology of the Great Swamp around the land- fill and monitor the quality of ground water and (or) surface water around the landfill.	USFWS USGS	FY89	FY91 except report
NJ	E	Robert E. Wickman Mountain View Office Park 810 Bear Tavern Road Suite 206 West Trenton, NJ 08628	Department of Environmental Protection, NJ	Use of 1-Dimen- sional Models to Simulate Flow and Salinity in Estu- aries with Exten- sive Wetlands, Southern New Jersey	Test how well several models simulate flow and the transport of salinity in estuaries (Great Egg Harbor and Tuckahoe Rivers) that contain well-developed, well-mixed channels and extensive wetlands. Identify problems in model application and suggest improvements.	USGS Department of Environmental Protection, NJ	FY91	FY93

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
US, especially MD, VA, VI, MN	C, D, E	Virginia Carter Mail Stop 430 12201 Sunrise Valley Drive Reston, VA 22092	USNPS, National Capital Parks; NASA Pioneer-Venus USAE Constructional Engineering Research Laboratory Champaign, Ill. USAE MES Vicksburg, MS USAE Baltimore Dist. USFWS-DC Headquarters; Boston MA	Remote Sensing and Ecological Research in Wetlands	Determine factors responsible for changing distribution of submersed macrophyte beds in tidal Potomac River. Monitor spread of hydrilla and competition with other macrophytes. Determine effect of submersed macrophytes on water velocity and water quality. Characterize wetland transition zones; relate distribution of vegetation to soils, hydrology and elevation. Examine seasonal and long-term changes in wetland ecology as related to changes in environmental parameters (e.g., hydrology, water quality and land use). Help develop models that utilize remote sensing or biological and hydrologic wetland data in their primary data base.	USGS 1987 USNPS, National Capital Parks 1973 NASA Pioneer-Venus 1982 CERL 1976-80 USFWS, DC Headquarters 1981-82 USFWS Boston, MA 1980-87 and 1990 USAE Vicksburg District 1986-88 USAE Baltimore District	FY72	Continuing

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
US, especially TN, NC, VA, MO, CO, MI, SC, RI, LA	C, E	Cliff R. Hupp 12201 Sunrise Valley Drive Reston, VA 22092		Vegetation and Hydrogeomorphic Relations	Conduct basic research in the analysis and interpretation of the role of vegetation in natural and disturbed fluvial systems, including riparian and wetlands systems. Conduct basic research in the hydrogeomorphic-plant ecological aspects of watershed dynamics, including the delineation of variable source areas of runoff production and groundwater recharge, and analyses of non-point source pollution and basic plant-landform relations.	USGS	FY89	Continuing
NY	E	Jan M. Surface 521 West Seneca Street Ithaca, NY 14850	Thompkins County Department of Planning, NY	Fate and Transport of Landfill Leachate in a Phragmites Wetland	Examine the physical, chemical, and biological processes occurring within the wetland system and determine the ability of wetlands to fix or transform nutrients, metals, and organic constituents found in the landfill leachate. Measure the efficiency of leachate treatment as a function of substrate material, plant growth, leachate quality, and seasonal change in climate.	USGS Thompkins County Department of Planning, NY	FY88	FY91 except report FY92 final report

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

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NY	E	William F. Coon 521 West Seneca Street Ithaca, NY 14850	Monroe County Environmental Health Laboratory, NY	Effects of Storm- water Detention in Wetlands of the Lower Iron- dequoit Creek Basin near Rochester, New York	<p>Evaluate the use of the floodplain wetlands at the mouth of Irondequoit Creek as a nutrient and sediment filter.</p> <p>Determine the effects of dispersing storm-water runoff on a monocultural cattail wetland following flow modification. These modifications will disperse stormflows throughout the wetlands and increase residence time of the flood waters and associated constituents.</p> <p>Document the present flora and fauna structure of the wetland.</p> <p>Evaluate ecosystem changes that might improve the multiple-use value of the wetland resource.</p>	USGS Monroe County Environmental Health Laboratory, NY	FY90	FY94

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
OR	C	Frank A. Rinella 10615 SE Cherry Blossom Drive Portland, OR 97216		Amazon Creek Water Quality Assessment	Analyze streambed sedi- ment and water samples from Amazon Creek and adjacent wetlands for inorganic trace ele- ments and organic com- pounds on EPA's priority pollutant list. Evaluate temporal and spatial water-quality conditions. Evaluate alternative methods of improving water quality and the effectiveness of in- place improvements.	USGS	FY91	FY93
VA	E	Gary K. Speiran 3600 West Broad St. Rm. 606 Richmond, VA 23230	Virginia Polytech Institute State University of Virginia Accomack-Norhampton Planning Comm.	Biogeochemical Processes Con- trolling Nitrate Concentrations in Ground-Water Discharge	Determine the effects of ground-water flow and biogeochemical pro- cesses on nitrate con- centrations in ground water that discharges into coastal estuaries, saltwater marshes, and wetlands.	USGS Virginia Polytech Institute State University of Virginia Accomack- Norhampton Planning Comm.	FY91	FY94

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
WI	E	William J. Rose 6417 Normandy Lane Madison, WI 53719	Wisconsin DNR	Effects of Acid Deposition on Acidic Lakes in Northern Wisconsin	Determine hydrologic and chemical budgets for two extremely sensitive (alkalinity < 20 ueq/L) lakes in northern Wisconsin. Determine controls on lake chemistry, especially as affected by ground water inflow; document differences between lakes surrounded by bog and those without bog influence.	USGS Wisconsin DNR	FY87	FY96
WI	E	David P. Krabbenhoft 6417 Normandy Lane Madison, WI 53719	Wisconsin DOT, Division of Highways	Hydrogeological Assessment and Guidelines Development for Wetland Restoration and Creation Projects	Assess the current state of knowledge concerning wetland hydrology and hydrogeology, particularly as it pertains to restoration and creation projects. Conduct research on the hydrology and restoration and creation projects before, during, and after. Develop technical guidelines for the development of future wetland restoration and creation projects.	USGS Wisconsin DOT	FY90	FY96

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
WV	E	Marcus C. Waldron 603 Morris Street Charleston, WV 25301	West Virginia DNR, Water Resources Division	Assimilative Capacity of a High Altitude Wetland, Canaan Valley, West Virginia	Determine the impact of waste-water discharges on the surface-water resources of the Canaan Valley. Determine and quantify the factors that con- trol the capacity of the wetlands and sur- face waters of Canaan Valley to assimilate wastewater on a year- round basis.	USGS West Virginia DNR	FY91	FY93
WV	E	Marcus C. Waldron 603 Morris Street Charleston, WV 25301	Lane Council of Government	Microenviron- mental Deter- minants of Deni- trification in Wetlands	Develop methods for measuring in situ deni- trification in wetland soils and sediments. Identify key environ- mental factors that regulate denitrifica- tion in a specific wet- land located in north- ern West Virginia.	USGS Lane Council of Government	FY91	FY93
LA	E	Jeff Williams US Geological Survey 914 National Center Reston, VA 22092	Louisiana Geological Survey Louisiana State University USFWS	Research, Wetlands Loss Processes	Determine the geologic conditions and pro- cesses responsible for wetlands loss and deterioration.	USGS	FY89	FY93
FL	E	Rich Stumpf US Geological Survey 600 Fourth St. South St. Petersburg, FL 33701	Florida DNR USF	Research, Wetlands Loss Processes	Determine the geologic conditions and pro- cesses responsible for wetlands loss and deterioration.	USGS	FY91	FY95

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

SITE	TYPE	PRINCIPAL INVESTIGATOR	COOPERATORS	TITLE OF WORK	OBJECTIVES	FUNDING SOURCE	PROJECT START DATE	PROJECT ENDING DATE
MI	E	Jeff Williams US Geological Survey 914 National Center Reston, VA 22092	Indiana Geological Survey USFWS	Research, Wetlands Loss Processes	Determine the geologic conditions and pro- cesses responsible for wetlands loss and deterioration.	USGS	FY91	FY95
OH	E	Morrie Robbins US Geological Survey 914 National Center Reston, VA 22092	Ohio Geological Survey	Research, Wetlands Loss Processes	Determine the geologic conditions and pro- cesses responsible for wetlands loss and deterioration.	USGS	FY91	FY95

A - Marine B - Estuarine C - Riverine D - Lacustrine E - Palustrine

Index by Wetland Type (Cowardin)

MARINE: pages 8, 16, 20, 21, 22, 24, 25, 36, 37, 38, 39, 40, 41, 44, 45, 46

ESTUARINE: pages 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 24, 25, 27, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50

RIVERINE: pages 2, 4, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 19, 20, 21, 22, 24, 25, 26, 29, 30, 31, 32, 33, 36, 37, 38, 39, 40, 44, 45, 50, 53, 54, 55, 57, 59, 60, 62

LACUSTRINE: pages 3, 5, 7, 8, 9, 10, 11, 12, 13, 16, 17, 19, 20, 21, 22, 24, 25, 32, 33, 36, 37, 38, 39, 40, 42, 44, 49, 50, 53, 55, 57, 59

PALUSTRINE: pages 2, 3, 4, 8, 9, 10, 11, 12, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 36, 37, 38, 39, 40, 41, 42, 43, 44, 47, 48, 49, 50, 51, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65

Format for Submission of Research Projects for the National Summary of Ongoing Wetlands Research by Federal Agencies:

SITE: Location by state (abbreviation); e.g. AL, LA

TYPE: One of five wetland types from Cowardin et al. (A-Marine, B-Estuarine, C-Riverine, D-Lacustrine, E-Palustrine)

PRINCIPAL INVESTIGATOR: Name
Agency
Address
Phone Number

COOPERATORS: Name
Agency

TITLE OF WORK: Self-explanatory

OBJECTIVES: Brief and succinct statement of work objectives; limit to short bullets and no more than 20-25 words.

FUNDING SOURCE: Self-explanatory

PROJECT START DATE: Self-explanatory

PROJECT ENDING DATE: Self-explanatory

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CEWES-EP-W (WETLANDS
RESEARCH PROGRAM)
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Abbreviations Used in Report

DNR - Department of Natural Resources
DOE - Department of Energy
DOT - Department of Transportation
FHWA - Federal Highway Administration
NASA - National Aeronautics and Space Administration
NMFS - National Marine Fisheries Service
NOAA - National Oceanic and Atmospheric Administration
NPSP - Non-Point Source Pollution
SCS - Soil Conservation Service
USACE - U.S. Army Corps of Engineers
USAE - U.S. Army Engineer
USAEWES - U.S. Army Engineer Waterways Experiment Station
USBR - U.S. Bureau of Reclamation
USDA - U.S. Department of Agriculture
USDI - U.S. Department of the Interior
USEPA - U.S. Environmental Protection Agency
USFS - U.S. Forest Service
USFWS - U.S. Fish and Wildlife Service
USGS - U.S. Geological Survey
USNPS - U.S. National Park Service

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